Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
CREATION OF EVENT RADIO SERVICES	)	**RM- 11501**
	)	
and	)	
	)	
GE HEALTHCARE	)	**ET Docket 08-59**
	)	
Proposed Allocation of Spectrum at 2360-2400 MHz for Wireless Medical Body Sensor Networks	)	

To: The Commission

COMMENTS AND COUNTERPROPOSAL

Broadcast Sports, Incorporated ("BSI"), by counsel, hereby respectfully submits its comments and in certain respects a counterproposal to the above-captioned petition for rulemaking filed by Sounddec, LLC ("Sounddec") to establish new "Event Radio Services." [1] As well, these comments constitute a counterproposal relative to the proposal of GE Healthcare (GE) filed originally as written *ex parte* comments in response to a *Notice of Inquiry* in the pending "MedRadio" proceeding, ET Docket 06-135 on or about December 27, 2007. GE proposes that the band 2360-2400 MHz be allocated on a secondary basis for "Body Sensor Networks" (BSNs). [2] These systems are apparently to be used for wireless patient monitoring. Relative to these proposals, and in order to

[1] See, the *Public Notice*, Report No. 2877, released October 16, 2008. These Comments and Counterproposal constitute a written *ex parte* filing in this proceeding.
[2] See, the Public Notice, DA 08-953, released April 24, 2008. These Comments and Counterproposal constitute a written *ex parte* filing in this proceeding as well.

create a far more efficient and compatible service in presently deployed spectrum than that proposed in either of these disparate proceedings, BSI states as follows:

1. BSI is a preeminent producer of video and audio at events around the country for broadcast, cablecast, and satellite transmission to end users. Its work includes production and transmission of video for nationally televised sporting events -- especially professional golf and automobile racing events – but it includes as well production for broadcast and cablecast of other newsworthy events throughout the United States of all types. Its clients include broadcast, cable and satellite networks and other users of video for point-to-multipoint dissemination. BSI does this pursuant to Federal Communications Commission ("Commission")-issued licenses in the Local Television Transmission Service ("LTTS") and certain Broadcast Auxiliary ("BAS") and Land Mobile radio licenses. The video produced by BSI and other video production companies is now done in high-definition digital formats using state-of-the art equipment. Due to the nature of the events at which BSI produces video, and the methodologies used,[3] the frequency bands below 6 GHz must be utilized. This in essence translates to the use of the "2 GHz band" (formerly 1990-2110 MHz, now 2025-2110 MHz following reconfiguration to accommodate the Mobile Satellite and Advanced Wireless Services at 1990-2025 MHz). [4] The 2 GHz BAS/LTTS allocation is extremely heavily used by broadcasters for broadcast auxiliary operation on a daily basis. It is typically not available, or at least not sufficient, for video production of events as the result, in

[3] Video production necessitates the use of blimps as video platforms, and hand-held and vehicular mounted video camera-transmitters.

[4] *See* Amendment of Part 2 of the Commission's Rules to Allocate Spectrum Below 3 GHz for Mobile and Fixed Services to Support the Introduction of New Advanced Wireless Services, Including Third Generation Wireless Systems, ET Docket No. 00-258, *Third Report and Order, Third Notice of Proposed Rulemaking and Second Memorandum Opinion and Order*, 18 FCC Rcd 2223 (2003) (*AWS Third Report and Order*)

virtually any television market.[5] There is additional spectrum available for video transmission for BAS and LTTS licensees between 2400-2483.5 MHz, but that band is generally not suitable for video production in most markets due to the extremely high ambient noise levels in that band from Part 15 and Part 18 devices, and from licensed users of the band, which include the Amateur Service and BAS facilities.

2. Because of the extreme shortfall in spectrum near 2 GHz for video production of events, BSI has been forced to develop extraordinary methods to insure that sufficient spectrum is available for production of video for the event, to meet viewer's expectations. The Commission has been willing to grant Special Temporary Authority ("STA") for event video production, utilizing spectrum at 2360-2395 MHz (among other bands) for production of certain events. These STAs, in turn, are premised and conditioned on prior coordination with holders of allocations in that band. These include the Aerospace and Flight Test Radio Coordinating Council ("AFTRCC") in order to protect the very sensitive Flight Test Telemetry operations throughout the United States[6] and, with respect to the primary Amateur Radio allocation at 2390-2395 MHz, with the American Radio Relay League, Incorporated ("ARRL"). While this arrangement works well in terms of interference avoidance, it is burdensome in terms of Commission staff resources in the Experimental Licensing Division of the Office of Engineering and Technology to process

[5] Spectrum in the 2 GHz band is authorized for use by BAS, Cable Television Relay Service (CARS) and LTTS. *See* 47 C.F.R. §§ 74.602, 78.18(a)(6) and 101.801. There are also Department of Defense satellite earth stations that have been authorized to use the band on a non-interference basis to the BAS, LTTS and CARS services. In most broadcast markets, the use of the 2 GHz band, which has seven shared channels, is coordinated by the Society of Broadcast Engineers. Despite maximizing the efficiency of the use of these channels by frequency coordination, there are far more users than there are channels in most markets. Since video production of events involves multiple RF cameras, each using discrete video channels of between 8 and 12 MHz per channel, the 2 GHz band cannot be utilized for event video production on any reliable basis in most markets.

[6] AFTRCC administers frequency coordination via an extremely professional and competent staff, and the coordination process inevitably works well, with no reported instances of interference from BSI's video production operations to flight test telemetry operations whatsoever. The reverse is also true; BSI has encountered no interference from Flight Test Telemetry.

STAs on an ongoing basis for large numbers of event locations. Because of the relatively short horizons of AFTRCC's plans for flight test telemetry at 2360-2395 MHz, it is necessary to apply for STAs every three months. This is costly to BSI and similarly situated video production companies, and extremely time consuming for Commission staff. Yet, the work of BSI and other video production companies is critical to the ability of television viewers nationwide to timely view newsworthy, entertainment and sporting events, which they expect. Furthermore, because flight test telemetry operations are not entirely predictable, and because there is an absolute need to protect flight test operations from interference, access to the 2360-2395 MHz band is not assured either.

3. Sounddec proposes in its recently-filed petition for rule making the creation of a new "Event Radio Service" which would utilize the FM broadcast band for event attendees to follow the activities of the event. BSI takes no position with respect to that proposal, except to note that there is a far more acute need for an "Event Radio Service" that provides spectrum and rules governing the production of video and audio of events for viewing by nationwide and regional audiences through broadcast, cablecast and satellite transmission. Pursuant to the Sounddec proposal, attendees at an event might have a more comprehensive understanding of, or enjoyment of an event to the extent that there is audio available to the attendees at that event. However, it is far more urgent that spectrum be made available so that attendees at that and thousands of other events annually can watch and hear the events remotely, and on a portable basis away from the venue, not just at the event site itself. Accordingly, BSI counterproposes the creation of an "event radio service" that provides spectrum and rules governing the production of

video and audio of events for nationwide and worldwide transmission. This would be separate from the broadcast auxiliary service, eligibility for licensing in which is limited.

4. With respect to the GE Healthcare proposal to create BSN's in the 2360-2400 MHz band, GE's proposal would virtually preclude video production operations by STA or otherwise in that band. BSN's are very short-range networks consisting of multiple body-worn sensors and nodes, connected via wireless to nearby hub stations at medical facilities, and in homes as well. There would be no way to coordinate BSN operation at 2390-2400 MHz with any video production operation. Both BSN's and RF cameras are essentially mobile or temporary fixed uses, and the interference potential of BSN devices *to and from* video production facilities is not known. Nor are the separation distances, path lengths, or path azimuths of video production known, or determinable in advance. GE's proposal is for the allocation of the entire 2360-2400 MHz band for BSN devices. At any given event venue (that is approved and coordinated in advance by AFTRCC), the entirety of that band is utilized for video production operation. The band is used for video production using aeronautical mobile and terrestrial or crane-mounted transmitters with Effective Radiated Power levels in excess of 10 watts. Video production companies conduct communications on a basis that would make interference to and from BSNs completely unpredictable.

5. BSNs would be deployed not only at medical facilities, but also in residential environments. GE has made no compatibility analysis to date. If it had, it would have had to contend with, as but one of many examples, the possibility of video production activities in the 2360-2395 MHz band on golf courses immediately adjacent to

residences. There would have to be anticipated close geographic proximity between BSNs and video production operation.

6. BSI is especially concerned about interference to BSNs from video production operation in the 2360-2400 MHz band. The ramifications of radiofrequency interference ("RFI") to these systems in terms of danger to medical patients are quite obvious, and potentially severe. The potential for interference from video production operations, which are in this band itinerant and mobile, and pursuant at this point to STAs granted on a non-interference basis, to BSNs operated at a patient's residence or a medical facility near an event location, would be an overwhelming problem. GE states that BSNs will "become ubiquitous," and they must, according to GE, "be capable of reliably conveying unprocessed life-critical monitoring data to devices that are responsible for processing and primary alarming." In these scenarios, if the link were lost, a serious event such as arrhythmia or hypoxia could go unalarmed." [7] If GE's products in fact require "extremely reliable" communications links with a predictable quality of service, they will not find that in the 2360-2395 MHz band and should look elsewhere; but given that required level of interference protection, video production activities at events would be, in essence, precluded. To the extent that video production operations in that band could continue, there would be no reliability of BSNs in this segment, and the results of such interference would be potentially disastrous, as GE itself notes. [8]

7. Given this, BSI counterproposes the following: Alternatives to the 2360-2395 MHz band for BSNs should be pursued. These should include medical telemetry bands. BSN's should not in any case utilize a band actively used for mobile applications.

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[7] *See,* GE *Ex Parte* comments, at pages 7, 8 and 12.
[8] *Id.,* at 7.

Furthermore, higher-frequency microwave bands might be appropriate for BSNs, but not bands in the vicinity of 2 GHz, which has unique propagation characteristics completely unnecessary for BSN's. BSNs need the protection of a safety service and there are bands set aside for the purpose and those should be used. Alternatively, GE could make use of the bands 608-614 MHz, 1395-1400 MHz or 1427-1429.5 MHz in the Part 95, subpart H Wireless Medical Telemetry Service, which seems to be well-suited to BSN applications, or in the MICS on bands other than 2360-2395 MHz.

8. The band 2360-2395 MHz, instead, should be allocated to the Event Radio Service on a secondary basis. Eligibles should be video production companies: those commercially providing to customers video and audio of individual events for broadcast, cablecast, satellite transmission or webcast. The rules should provide absolute interference protection to flight test telemetry operations, and any and all use of the band should require advance *written* coordination from AFTRCC. The band, subject to prior coordination, could be used on a shared basis with channel bandwidth not to exceed 10 MHz, and at power levels not to exceed 1 watt Transmitter Power Output. The service area should be the site of the event only, and all operations should be limited to the duration of the event, and in no circumstance longer than 14 days. Licensing can be on a blanket basis, or by issuance of individual licenses. Because there have been instances in which some video production entities have failed to engage in prior event coordination with AFTRCC, the absence of evidence of prior written AFTRCC coordination should subject the user to substantial monetary forfeitures.

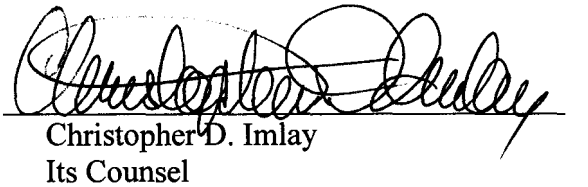
9. Because there are clear alternatives for GE Healthcare in terms of spectrum and existing radio services that can easily accommodate GE Healthcare's proposals; and

because there is a far more critical need for provision of spectrum for video and audio production of events for nationwide viewing by broadcast, webcast, cablecast and satellite direct broadcast audiences than for individual attendees at events to listen to audio at those events over broadcast channels; and because entirely compatible video production operations are, and can continue to be, conducted in the 2360-2395 MHz band without interference to flight test telemetry, BSI respectfully counter proposes the creation of an "Event Radio Service" for video and audio production of events for nationwide and regional viewing by audiences of various media.

Accordingly, Broadcast Sports, Incorporated respectfully requests that the Commission not proceed with either the Sounddec proposal as configured or the proposal of GE Healthcare for BSN's as proposed in the 2360-2395 MHz band; but instead to create an Event Radio Service as counterproposed herein.

Respectfully submitted,

BROADCAST SPORTS, INCORPORATED

By: 
Christopher D. Imlay
Its Counsel

BOOTH, FRERET, IMLAY & TEPPER, P.C.
14356 Cape May Road
Silver Spring, MD 20904-6011
(301) 384-5525

March 4, 2009

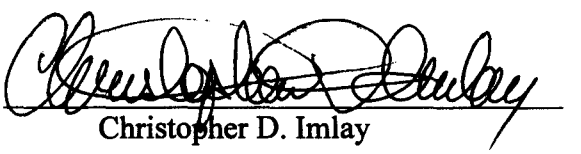
CERTIFICATE OF SERVICE

I, Christopher D. Imlay, do hereby certify that I caused to be mailed, via first class U.S. Mail, postage prepaid, a copy of the foregoing COMMENTS AND COUNTERPROPOSAL to the following, this 4th day of March, 2009.

Joseph M. DiScipio, Esquire
Fletcher, Heald & Hildreth, PLC
1300 North 17th Street, 11th Floor
Arlington, VA 22209
(Counsel for Sounddec, LLC)

Ari Q. Fitzgerald, Esquire
Hogan & Hartson, L.L.P.
555-13th Street, N.W.
Washington, D.C. 20004
(*Counsel for GE Healthcare*)

Mr. Gary Thayer **
Office of Engineering and Technology
Federal Communications Commission
445-12th Street, S.W.
Washington, D.C. 20554



Christopher D. Imlay

** via e-mail